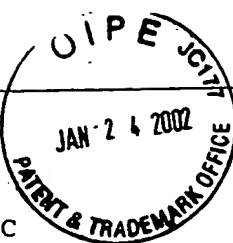SEQUENCE LISTING

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        15                  20                  25

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Leu Leu Leu Leu Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly
    30                  35                  40

cag aat ctg ttt acg aaa gac gtg aca gtg atc gag gga gag gtt gcg        195
Gln Asn Leu Phe Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala
45                  50                  55                  60

acc atc agt tgc caa gtc aat aag agt gac gac tct gtg att cag cta        243
Thr Ile Ser Cys Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu
                65                  70                  75

ctg aat ccc aac agg cag acc att tat ttc agg gac ttc agg cct ttg        291
Leu Asn Pro Asn Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu
            80                  85                  90

aag gac agc agg ttt cag ttg ctg aat ttt tct agc agt gaa ctc aaa        339
Lys Asp Ser Arg Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys
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Val Ser Leu Thr Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys
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cag ctc tat acc gat ccc cca cag gaa agt tac acc acc atc aca gtc       435
Gln Leu Tyr Thr Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val
125             130             135             140

ctg gtc cca cca cgt aat ctg atg atc gat atc cag aaa gac act gcg       483
Leu Val Pro Pro Arg Asn Leu Met Ile Asp Ile Gln Lys Asp Thr Ala
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gtg gaa ggt gag gag att gaa gtc aac tgc act gct atg gcc agc aag       531
Val Glu Gly Glu Glu Ile Glu Val Asn Cys Thr Ala Met Ala Ser Lys
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cca gcc acg act atc agg tgg ttc aaa ggg aac aca gag cta aaa ggc       579
Pro Ala Thr Thr Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu Lys Gly
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aaa tcg gag gtg gaa gag tgg tca gac atg tac act gtg acc agt cag       627
Lys Ser Glu Val Glu Glu Trp Ser Asp Met Tyr Thr Val Thr Ser Gln
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ctg atg ctg aag gtg cac aag gag gac gat ggg gtc cca gtg atc tgc       675
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Gln Val Glu His Pro Ala Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr
            225             230             235

cta gaa gta cag tat aag cct caa gtg cac att cag atg act tat cct       771
Leu Glu Val Gln Tyr Lys Pro Gln Val His Ile Gln Met Thr Tyr Pro
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cta caa ggc tta acc cgg gaa ggg gac gcg ctt gag tta aca tgt gaa       819
Leu Gln Gly Leu Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys Glu
            255             260             265

gcc atc ggg aag ccc cag cct gtg atg gta act tgg gtg aga gtc gat       867
Ala Ile Gly Lys Pro Gln Pro Val Met Val Thr Trp Val Arg Val Asp
            270             275             280

gat gaa atg cct caa cac gcc gta ctg tct ggg ccc aac ctg ttc atc       915
Asp Glu Met Pro Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile
285             290             295             300

aat aac cta aac aaa aca gat aat ggt aca tac cgc tgt gaa gct tca       963
Asn Asn Leu Asn Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser
            305             310             315

aac ata gtg ggg aaa gct cac tcg gat tat atg ctg tat gta tac gat      1011
Asn Ile Val Gly Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp
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ccc ccc aca act atc cct cct ccc aca aca acc acc acc acc acc acc      1059
Pro Pro Thr Thr Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr Thr Thr
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acc acc acc acc acc atc ctt acc atc atc aca gat tcc cga gca ggt      1107
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            Glu Glu Gly Ser Ile Arg Ala Val Asp His Ala Val Ile Gly Gly Val
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            gtg gcg gtg gtg gtg ttc gcc atg ctg tgc ttg ctc atc att ctg ggg    1203
            Val Ala Val Val Val Phe Ala Met Leu Cys Leu Leu Ile Ile Leu Gly
                            385             390             395

            cgc tat ttt gcc aga cat aaa ggt aca tac ttc act cat gaa gcc aaa    1251
            Arg Tyr Phe Ala Arg His Lys Gly Thr Tyr Phe Thr His Glu Ala Lys
                        400             405             410

            gga gcc gat gac gca gca gac gca gac aca gct ata atc aat gca gaa    1299
            Gly Ala Asp Asp Ala Ala Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu
                        415             420             425

            gga gga cag aac aac tcc gaa gaa aag aaa gag tac ttc atc            1341
            Gly Gly Gln Asn Asn Ser Glu Glu Lys Lys Glu Tyr Phe Ile
                430             435             440

            tagatcagcc tttttgtttc aatgaggtgt ccaactggcc ctatttagat gataaagaga    1401

            cagtgatatt ggaacttgcg agaaattcgt gtgttttttt atgaatgggt ggaaaggtgt    1461

            gagactggga aggcttggga tttgctgtgt aaaaaaaaaa aaaaaatgtt ctttggaaag    1521

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    Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly Gln Asn Leu Phe
            35              40              45

    Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile Ser Cys
        50              55              60

    Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn
    65              70              75              80

    Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg
                    85              90              95

    Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr
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Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro
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Arg Asn Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu
145             150             155             160

Glu Ile Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr
            165             170             175

Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu Lys Gly Lys Ser Glu Val
        180             185             190

Glu Glu Trp Ser Asp Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys
        195             200             205

Val His Lys Glu Asp Asp Gly Val Pro Val Ile Cys Gln Val Glu His
    210             215             220

Pro Ala Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln
225             230             235             240

Tyr Lys Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu
            245             250             255

Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys Glu Ala Ile Gly Lys
            260             265             270

Pro Gln Pro Val Met Val Thr Trp Val Arg Val Asp Asp Glu Met Pro
    275             280             285

Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile Asn Asn Leu Asn
    290             295             300

Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser Asn Ile Val Gly
305             310             315             320

Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp Pro Pro Thr Thr
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Ile Pro Pro Pro Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr
            340             345             350

Thr Ile Leu Thr Ile Ile Thr Asp Ser Arg Ala Gly Glu Glu Gly Ser
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Ile Arg Ala Val Asp His Ala Val Ile Gly Gly Val Val Ala Val Val
    370             375             380

Val Phe Ala Met Leu Cys Leu Leu Ile Ile Leu Gly Arg Tyr Phe Ala
385             390             395             400

Arg His Lys Gly Thr Tyr Phe Thr His Glu Ala Lys Gly Ala Asp Asp
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  1   5   10   15

gcc gcg gca ctg atc ccc aca ggt gat gga cag aat ctg ttt act aaa   97
Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly Gln Asn Leu Phe Thr Lys
            20   25   30

gac gtg aca gtg att gaa gga gaa gtg gca acc atc agc tgc cag gtc   145
Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile Ser Cys Gln Val
            35   40   45

aat aag agt gac gac tca gtg atc cag ctc ctg aac ccc aac agg cag   193
Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn Arg Gln
        50   55   60

acc att tac ttc agg gac ttc agg cct ttg aag gac agc agg ttt cag   241
Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg Phe Gln
65   70   75   80

ctg ctg aat ttt tct agc agt gaa ctc aaa gtg tca ctg acg aat gtc   289
Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr Asn Val
                85   90   95

tca atc tcg gat gaa ggg aga tac ttc tgc cag ctc tac acg gac ccc   337
Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys Gln Leu Tyr Thr Asp Pro
                100   105   110

cca cag gag agt tac acc acc atc aca gtc ctg gtt cct cca cgt aac   385
Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro Arg Asn
            115   120   125

ttg atg atc gat atc cag aaa gac acg gca gtt gaa ggg gag gag att   433
Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu Glu Ile
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gaa gtc aac tgt act gcc atg gcc agc aag cca gcg acg acc atc agg   481
Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr Ile Arg
145   150   155   160

tgg ttc aaa ggg aac aag gaa ctc aaa ggc aaa tca gag gtg gag gag   529
Trp Phe Lys Gly Asn Lys Glu Leu Lys Gly Lys Ser Glu Val Glu Glu
                165   170   175

tgg tcg gac atg tac act gtg acc agt cag ctg atg ctg aag gtg cac   577
Trp Ser Asp Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys Val His
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Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln Tyr Lys
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ccg caa gtg cat atc cag atg act tac cct ctg caa ggc cta acc cgg      721
Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu Thr Arg
225             230             235             240

gaa ggg gat gca ttt gag tta acg tgt gaa gcc atc ggg aag ccc cag      769
Glu Gly Asp Ala Phe Glu Leu Thr Cys Glu Ala Ile Gly Lys Pro Gln
                245             250             255

cct gtg atg gta act tgg gtg aga gtc gat gat gaa atg cct caa cat      817
Pro Val Met Val Thr Trp Val Arg Val Asp Asp Glu Met Pro Gln His
            260             265             270

gcc gta ctg tct ggg cca aac ctg ttc atc aat aac cta aac aaa aca      865
Ala Val Leu Ser Gly Pro Asn Leu Phe Ile Asn Asn Leu Asn Lys Thr
            275             280             285

gat aac ggt act tac cgc tgt gag gct tcc aac ata gtg gga aag gct      913
Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser Asn Ile Val Gly Lys Ala
        290             295             300

cat tcg gac tat atg ctg tat gta tac gat ccc ccc aca act atc cct      961
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305             310             315             320

cct ccc aca aca acc acc acc act acc acc acc acc acc acc acc atc     1009
Pro Pro Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Ile
            325             330             335

ctt acc atc atc aca gat tct cga gca ggt gaa gag ggg acc att ggg     1057
Leu Thr Ile Ile Thr Asp Ser Arg Ala Gly Glu Glu Gly Thr Ile Gly
            340             345             350

gca gtg gac cac gca gtg att ggt ggc gtc gta gcc gtg gtg gtg ttt     1105
Ala Val Asp His Ala Val Ile Gly Gly Val Val Ala Val Val Val Phe
            355             360             365

gcc atg cta tgc ttg ctc atc att ctg ggc cgc tat ttt gcc aga cat     1153
Ala Met Leu Cys Leu Leu Ile Ile Leu Gly Arg Tyr Phe Ala Arg His
    370             375             380

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Lys Gly Thr Tyr Phe Thr His Glu Ala Lys Gly Ala Asp Asp Ala Ala
385             390             395             400

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Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu Gly Gly Gln Asn Asn Ser
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Glu Glu Lys Lys Glu Tyr Phe
            420
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aggcttggga tttgcaatgt acaaacaaaa acaaagaatg ttctttgaaa gtacactctg      1480

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atttgtgtta acggtgactg ctttctgttc caaattcagt ttcataaaag gaaaaccagc      1840

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            35                  40                  45

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        50                  55                  60

Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg Phe Gln
65                  70                  75                  80

Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr Asn Val
                85                  90                  95

Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys Gln Leu Tyr Thr Asp Pro
                100                 105                 110

Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro Arg Asn
            115                 120                 125

Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu Glu Ile
            130                 135                 140

Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr Ile Arg
145                 150                 155                 160

Trp Phe Lys Gly Asn Lys Glu Leu Lys Gly Lys Ser Glu Val Glu Glu
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Trp Ser Asp Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys Val His
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Lys Glu Asp Asp Gly Val Pro Val Ile Cys Gln Val Glu His Pro Ala
            195   200   205

Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln Tyr Lys
            210   215   220

Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu Thr Arg
225   230   235   240

Glu Gly Asp Ala Phe Glu Leu Thr Cys Glu Ala Ile Gly Lys Pro Gln
                245   250   255

Pro Val Met Val Thr Trp Val Arg Val Asp Asp Glu Met Pro Gln His
            260   265   270

Ala Val Leu Ser Gly Pro Asn Leu Phe Ile Asn Asn Leu Asn Lys Thr
            275   280   285

Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser Asn Ile Val Gly Lys Ala
            290   295   300

His Ser Asp Tyr Met Leu Tyr Val Tyr Asp Pro Pro Thr Thr Ile Pro
305   310   315   320

Pro Pro Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Ile
                325   330   335

Leu Thr Ile Ile Thr Asp Ser Arg Ala Gly Glu Glu Gly Thr Ile Gly
            340   345   350

Ala Val Asp His Ala Val Ile Gly Gly Val Val Ala Val Val Val Phe
            355   360   365

Ala Met Leu Cys Leu Leu Ile Ile Leu Gly Arg Tyr Phe Ala Arg His
            370   375   380

Lys Gly Thr Tyr Phe Thr His Glu Ala Lys Gly Ala Asp Asp Ala Ala
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gccagcgccc agccagggag ccggccggga agcgcg atg ggg gcc cca gcc gcc   174
                                          Met Gly Ala Pro Ala Ala
                                          1   5

tcg ctc ctg ctc ctg ctc ctg ctg ttc gcc tgc tgc tgg gcg ccc ggc   222
Ser Leu Leu Leu Leu Leu Leu Leu Phe Ala Cys Cys Trp Ala Pro Gly
            10   15   20

ggg gcc aac ctc tcc cag gac ggc tac tgg cag gag cag gat ttg gag   270
Gly Ala Asn Leu Ser Gln Asp Gly Tyr Trp Gln Glu Gln Asp Leu Glu
        25   30   35

ctg gga act ctg gct cca ctc gac gag gcc atc agc tcc aca gtc tgg   318
Leu Gly Thr Leu Ala Pro Leu Asp Glu Ala Ile Ser Ser Thr Val Trp
    40   45   50

agc agc cct gac atg ctg gcc agt caa gac agc cag ccc tgg aca tct   366
Ser Ser Pro Asp Met Leu Ala Ser Gln Asp Ser Gln Pro Trp Thr Ser
55   60   65   70

gat gaa aca gtg gtg gct ggt ggc acc gtg gtg ctc aag tgc caa gtg   414
Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu Lys Cys Gln Val
                75   80   85

aaa gat cac gag gac tca tcc ctg caa tgg tct aac cct gct cag cag   462
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            90   95   100

act ctc tac ttt ggg gag aag aga gcc ctt cga gat aat cga att cag   510
Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp Asn Arg Ile Gln
            105   110   115

ctg gtt acc tct acg ccc cac gag ctc agc atc agc atc agc aat gtg   558
Leu Val Thr Ser Thr Pro His Glu Leu Ser Ile Ser Ile Ser Asn Val
        120   125   130

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gcc ctg gca gac gag ggc gag tac acc tgc tca atc ttc act atg cct    606
Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile Phe Thr Met Pro
135             140             145             150

gtg cga act gcc aag tcc ctc gtc act gtg cta gga att cca cag aag    654
Val Arg Thr Ala Lys Ser Leu Val Thr Val Leu Gly Ile Pro Gln Lys
            155             160             165

ccc atc atc act ggt tat aaa tct tca tta cgg gaa aaa gac aca gcc    702
Pro Ile Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu Lys Asp Thr Ala
            170             175             180

acc cta aac tgt cag tct tct ggg agc aag cct gca gcc cgg ctc acc    750
Thr Leu Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala Ala Arg Leu Thr
            185             190             195

tgg aga aag ggt gac caa gaa ctc cac gga gaa cca acc cgc ata cag    798
Trp Arg Lys Gly Asp Gln Glu Leu His Gly Glu Pro Thr Arg Ile Gln
    200             205             210

gaa gat ccc aat ggt aaa acc ttc act gtc agc agc tcg gtg aca ttc    846
Glu Asp Pro Asn Gly Lys Thr Phe Thr Val Ser Ser Ser Val Thr Phe
215             220             225             230

cag gtt acc cgg gag gat gat ggg gcg agc atc gtg tgc tct gtg aac    894
Gln Val Thr Arg Glu Asp Asp Gly Ala Ser Ile Val Cys Ser Val Asn
            235             240             245

cat gaa tct cta aag gga gct gac aga tcc acc tct caa cgc att gaa    942
His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser Gln Arg Ile Glu
            250             255             260

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            265             270             275

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Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly Arg Gly Asn Pro
    280             285             290

gtc ccc cag cag tac cta tgg gag aag gag ggc agt gtg cca ccc ctg    1086
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295             300             305             310

aag atg acc cag gag agt gcc ctg atc ttc cct ttc ctc aac aag agt    1134
Lys Met Thr Gln Glu Ser Ala Leu Ile Phe Pro Phe Leu Asn Lys Ser
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gac agt ggc acc tac ggc tgc aca gcc acc agc aac atg ggc agc tac    1182
Asp Ser Gly Thr Tyr Gly Cys Thr Ala Thr Ser Asn Met Gly Ser Tyr
            330             335             340

aag gcc tac tac acc ctc aat gtt aat gac ccc agt ccg gtg ccc tcc    1230
Lys Ala Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser Pro Val Pro Ser
            345             350             355

tcc tcc agc acc tac cac gcc atc atc ggt ggg atc gtg gct ttc att    1278
Ser Ser Ser Thr Tyr His Ala Ile Ile Gly Gly Ile Val Ala Phe Ile
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A10

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gtc ttc ctg ctg ctc atc atg ctc atc ttc ctt ggc cac tac ttg atc      1326
Val Phe Leu Leu Leu Ile Met Leu Ile Phe Leu Gly His Tyr Leu Ile
375                 380                 385                 390

cgg cac aaa gga acc tac ctg aca cat gag gca aaa ggc tcc gac gat      1374
Arg His Lys Gly Thr Tyr Leu Thr His Glu Ala Lys Gly Ser Asp Asp
                395                 400                 405

gct cca gac gcg gac acg gcc atc atc aat gca gaa ggc ggg cag tca      1422
Ala Pro Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu Gly Gly Gln Ser
                410                 415                 420

gga ggg gac gac aag aag gaa tat ttc atc tagaggcgcc tgcccacttc        1472
Gly Gly Asp Asp Lys Lys Glu Tyr Phe Ile
                425                 430

ctgcgccccc caggggccct gtggggactg ctggggccgt caccaacccg gacttgtaca    1532

gagcaaccgc agggccgccc ctcccgcttg ctccccagcc cacccacccc cctgtacaga    1592

atgtctgctt tgggtgcggt tttgtactcg gtttggaatg gggagggagg agggcggggg    1652

gaggggaggg ttgccctcag ccctttccgt ggcttctctg catttgggtt attattattt    1712

ttgtaacaat cccaaatcaa atctgtctcc aggctggaga ggcaggagcc ctggggtgag    1772

aaaagcaaaa aacaaacaaa aaaaaaaaaa aaaaattcct gcggccgc                 1820


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<212>  PRT
<213>  homo sapiens

<400>  8

Met Gly Ala Pro Ala Ala Ser Leu Leu Leu Leu Leu Leu Phe Ala
1               5               10              15

Cys Cys Trp Ala Pro Gly Gly Ala Asn Leu Ser Gln Asp Gly Tyr Trp
            20              25              30

Gln Glu Gln Asp Leu Glu Leu Gly Thr Leu Ala Pro Leu Asp Glu Ala
        35              40              45

Ile Ser Ser Thr Val Trp Ser Ser Pro Asp Met Leu Ala Ser Gln Asp
    50              55              60

Ser Gln Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val
65              70              75              80

Val Leu Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp
            85              90              95

Ser Asn Pro Ala Gln Gln Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu
            100             105             110

Arg Asp Asn Arg Ile Gln Leu Val Thr Ser Thr Pro His Glu Leu Ser
        115             120             125

Ile Ser Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys
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Ser Ile Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu Val Thr Val
145   150   155   160

Leu Gly Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys Ser Ser Leu
                    165   170   175

Arg Glu Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser Gly Ser Lys
                180   185   190

Pro Ala Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu Leu His Gly
            195   200   205

Glu Pro Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr Phe Thr Val
        210   215   220

Ser Ser Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp Gly Ala Ser
225   230   235   240

Ile Val Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala Asp Arg Ser
                245   250   255

Thr Ser Gln Arg Ile Glu Val Leu Tyr Thr Pro Thr Ala Met Ile Arg
                260   265   270

Pro Asp Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu Leu His Cys
            275   280   285

Glu Gly Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu
        290   295   300

Gly Ser Val Pro Pro Leu Lys Met Thr Gln Glu Ser Ala Leu Ile Phe
305   310   315   320

Pro Phe Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly Cys Thr Ala Thr
                325   330   335

Ser Asn Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu Asn Val Asn Asp
            340   345   350

Pro Ser Pro Val Pro Ser Ser Ser Ser Thr Tyr His Ala Ile Ile Gly
        355   360   365

Gly Ile Val Ala Phe Ile Val Phe Leu Leu Leu Ile Met Leu Ile Phe
    370   375   380

Leu Gly His Tyr Leu Ile Arg His Lys Gly Thr Tyr Leu Thr His Glu
385   390   395   400

Ala Lys Gly Ser Asp Asp Ala Pro Asp Ala Asp Thr Ala Ile Ile Asn
            405   410   415

Ala Glu Gly Gly Gln Ser Gly Gly Asp Asp Lys Lys Glu Tyr Phe Ile
        420   425   430

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<211> 1718
<212> DNA
<213> homo sapiens

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<221> CDS
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cttctcggtca acatcgtagt ccaccccctc cccatcccca gcccccgggg attcaggctc   120

gccagcgccc agccagggag ccggccggga agcgcg atg ggg gcc cca gcc gcc   174
                                        Met Gly Ala Pro Ala Ala
                                        1   5

tcg ctc ctg ctc ctg ctc ctg ctg ttc gcc tgc tgc tgg gcg ccc ggc   222
Ser Leu Leu Leu Leu Leu Leu Leu Phe Ala Cys Cys Trp Ala Pro Gly
            10   15   20

ggg gcc aac ctc tcc cag gac gac agc cag ccc tgg aca tct gat gaa   270
Gly Ala Asn Leu Ser Gln Asp Asp Ser Gln Pro Trp Thr Ser Asp Glu
        25   30   35

aca gtg gtg gct ggt ggc acc gtg gtg ctc aag tgc caa gtg aaa gat   318
Thr Val Val Ala Gly Gly Thr Val Val Leu Lys Cys Gln Val Lys Asp
    40   45   50

cac gag gac tca tcc ctg caa tgg tct aac cct gct cag cag act ctc   366
His Glu Asp Ser Ser Leu Gln Trp Ser Asn Pro Ala Gln Gln Thr Leu
55   60   65   70

tac ttt ggg gag aag aga gcc ctt cga gat aat cga att cag ctg gtt   414
Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp Asn Arg Ile Gln Leu Val
                75   80   85

acc tct acg ccc cac gag ctc agc atc agc atc agc aat gtg gcc ctg   462
Thr Ser Thr Pro His Glu Leu Ser Ile Ser Ile Ser Asn Val Ala Leu
            90   95   100

gca gac gag ggc gag tac acc tgc tca atc ttc act atg cct gtg cga   510
Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile Phe Thr Met Pro Val Arg
            105   110   115

act gcc aag tcc ctc gtc act gtg cta gga att cca cag aag ccc atc   558
Thr Ala Lys Ser Leu Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile
    120   125   130

atc act ggt tat aaa tct tca tta cgg gaa aaa gac aca gcc acc cta   606
Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu Lys Asp Thr Ala Thr Leu
135   140   145   150

aac tgt cag tct tct ggg agc aag cct gca gcc cgg ctc acc tgg aga   654
Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala Ala Arg Leu Thr Trp Arg
                155   160   165

aag ggt gac caa gaa ctc cac gga gaa cca acc cgc ata cag gaa gat   702
Lys Gly Asp Gln Glu Leu His Gly Glu Pro Thr Arg Ile Gln Glu Asp
                170   175   180

ccc aat ggt aaa acc ttc act gtc agc agc tcg gtg aca ttc cag gtt   750
Pro Asn Gly Lys Thr Phe Thr Val Ser Ser Ser Val Thr Phe Gln Val
                185   190   195

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acc cgg gag gat gat ggg gcg agc atc gtg tgc tct gtg aac cat gaa          798
Thr Arg Glu Asp Asp Gly Ala Ser Ile Val Cys Ser Val Asn His Glu
200             205             210

tct cta aag gga gct gac aga tcc acc tct caa cgc att gaa gtt tta          846
Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser Gln Arg Ile Glu Val Leu
215             220             225             230

tac aca cca act gcg atg att agg cca gac cct ccc cat cct cgt gag          894
Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp Pro Pro His Pro Arg Glu
            235             240             245

ggc cag aag ctg ttg cta cac tgt gag ggt cgc ggc aat cca gtc ccc          942
Gly Gln Lys Leu Leu Leu His Cys Glu Gly Arg Gly Asn Pro Val Pro
            250             255             260

cag cag tac cta tgg gag aag gag ggc agt gtg cca ccc ctg aag atg          990
Gln Gln Tyr Leu Trp Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met
            265             270             275

acc cag gag agt gcc ctg atc ttc cct ttc ctc aac aag agt gac agt          1038
Thr Gln Glu Ser Ala Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser
280             285             290

ggc acc tac ggc tgc aca gcc acc agc aac atg ggc agc tac aag gcc          1086
Gly Thr Tyr Gly Cys Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala
295             300             305             310

tac tac acc ctc aat gtt aat gac ccc agt ccg gtg ccc tcc tcc tcc          1134
Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser Pro Val Pro Ser Ser Ser
            315             320             325

agc acc tac cac gcc atc atc ggt ggg atc gtg gct ttc att gtc ttc          1182
Ser Thr Tyr His Ala Ile Ile Gly Gly Ile Val Ala Phe Ile Val Phe
            330             335             340

ctg ctg ctc atc atg ctc atc ttc ctt ggc cac tac ttg atc cgg cac          1230
Leu Leu Leu Ile Met Leu Ile Phe Leu Gly His Tyr Leu Ile Arg His
            345             350             355

aaa gga acc tac ctg aca cat gag gca aaa ggc tcc gac gat gct cca          1278
Lys Gly Thr Tyr Leu Thr His Glu Ala Lys Gly Ser Asp Asp Ala Pro
360             365             370

gac gcg gac acg gcc atc atc aat gca gaa ggc ggg cag tca gga ggg          1326
Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu Gly Gly Gln Ser Gly Gly
375             380             385             390

gac gac aag aag gaa tat ttc atc tagaggcgcc tgcccacttc ctgcgccccc        1380
Asp Asp Lys Lys Glu Tyr Phe Ile
            395

cagggcccct gtggggactg ctggggccgt caccaacccg gacttgtaca gagcaaccgc        1440

agggccgccc ctcccgcttg ctccccagcc cacccacccc cctgtacaga atgtctgctt        1500

tgggtgcggt tttgtactcg gtttggaatg gggagggagg agggcggggg gaggggaggg        1560

ttgccctcag cccttтccgt ggcttctctg catttgggtt attattattt ttgtaacaat        1620
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cccaaatcaa atctgtctcc aggctggaga ggcaggagcc ctggggtgag aaaagcaaaa   1680

aacaaacaaa aaaaaaaaaa aaaaattcct gcggccgc   1718

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<212> PRT
<213> homo sapiens

<400> 10

Met Gly Ala Pro Ala Ala Ser Leu Leu Leu Leu Leu Leu Leu Phe Ala
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Cys Cys Trp Ala Pro Gly Gly Ala Asn Leu Ser Gln Asp Asp Ser Gln
            20   25   30

Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu
        35   40   45

Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp Ser Asn
    50   55   60

Pro Ala Gln Gln Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp
65   70   75   80

Asn Arg Ile Gln Leu Val Thr Ser Thr Pro His Glu Leu Ser Ile Ser
            85   90   95

Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile
            100   105   110

Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu Val Thr Val Leu Gly
        115   120   125

Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu
        130   135   140

Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala
145   150   155   160

Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu Leu His Gly Glu Pro
            165   170   175

Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr Phe Thr Val Ser Ser
            180   185   190

Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp Gly Ala Ser Ile Val
        195   200   205

Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser
    210   215   220

Gln Arg Ile Glu Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp
225   230   235   240

Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly
            245   250   255

Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu Gly Ser

Val Pro Pro Leu Lys Met Thr Gln Glu Ser Ala Leu Ile Phe Pro Phe
     275   280   285

Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly Cys Thr Ala Thr Ser Asn
     290   295   300

Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser
305   310   315   320

Pro Val Pro Ser Ser Ser Ser Thr Tyr His Ala Ile Ile Gly Gly Ile
          325   330   335

Val Ala Phe Ile Val Phe Leu Leu Leu Ile Met Leu Ile Phe Leu Gly
          340   345   350

His Tyr Leu Ile Arg His Lys Gly Thr Tyr Leu Thr His Glu Ala Lys
          355   360   365

Gly Ser Asp Asp Ala Pro Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu
     370   375   380

Gly Gly Gln Ser Gly Gly Asp Asp Lys Lys Glu Tyr Phe Ile
385   390   395